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动物分类学报

A NEW BLACKFLY SPECIES OF THE GENUS SIMULIUM FROM GUANGXI, CHINA (DIPTERA, SIMULIIDAE)

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Abstract The present paper reports a new species of Simuliidae, *Simulium* (*Simulium*) *damingense* sp. nov., from Daming Mountain, Guangxi Zhuang Aut. Reg, China. On the basis of the characters of male and female genitalia, the new species evidently falls into malyschevi group. The type speciments are deposited in the Department of Biology of Guiyang Medical University, China.

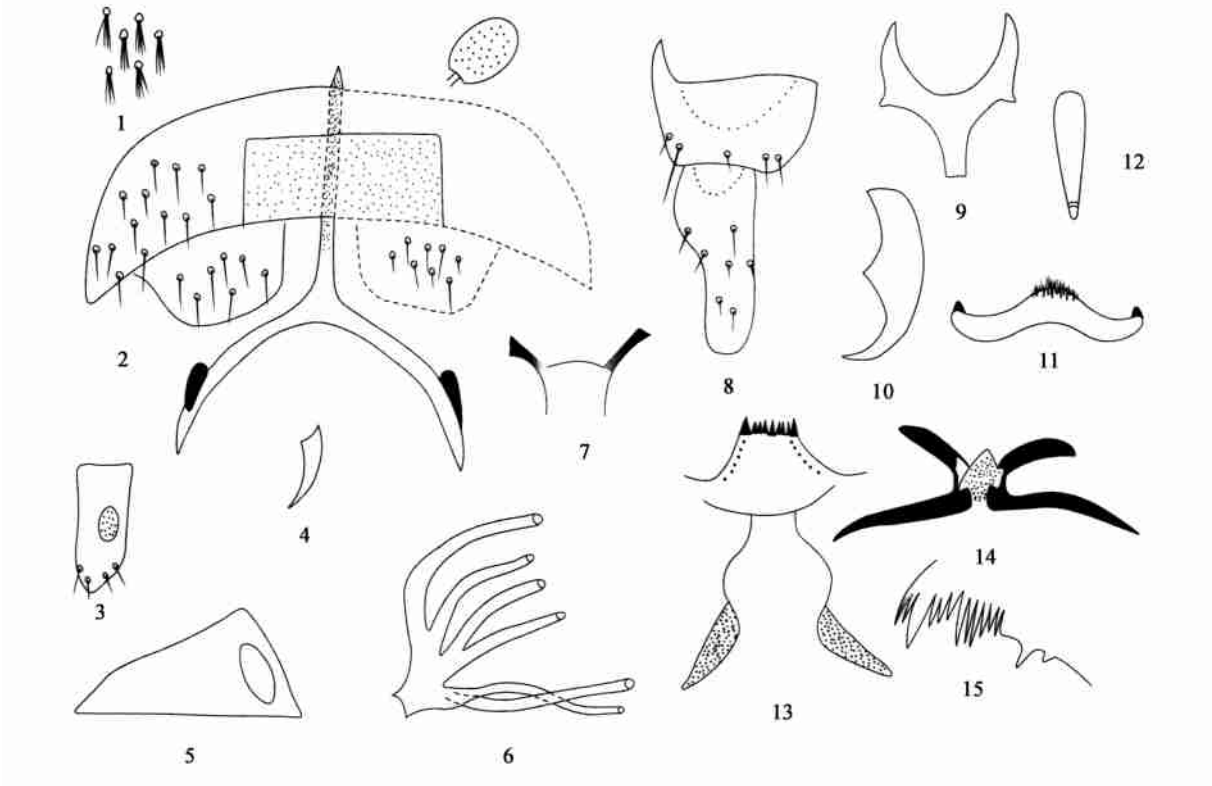
Key words Diptera, Simuliidae, *Simulium* (*Simulium*), new species, Guangxi.

Simulium (Simulium) damingense **sp. nov.** (Figs. 1-15)

Female. Body length about 2.6 mm. Wing length about 2.0 mm.

Head. Narrower than width of thorax. Frons shiny black, with several black hairs along each lateral margin; frontal ratio 6.7: 6.1: 5.9; frons-head ratio 6.7: 20.6. Fronto-ocular area very developed. Clypeus shiny black, grey-pruinose and covered with sparse black hairs. Antenna composed of 2 + 9 segments, which are brownish black except scape and pedicel yellow. Maxillary palp with 5 segments in proportion of 3rd, 4th and 5th segments 4.0: 3.4: 7.6; 3rd segment not enlarged; sensory vesicle small, about 0.25 length of 3rd segment. Maxilla with about 10 inner teeth and 8 outer ones; Mandible with about 25 inner teeth and 9 outer ones. Cibarium smooth.

Thorax. Scutum black, grey-pruinose and covered



Figs 1-15. *Simulium* (*Simulium*) *damingense* sp. nov. 1. Branched setae on the 7th sternite. 2. Female genitalia. 3. Female sensory vesicle. 4. Female claw. 5. Cocoon in lateral view. 6. Filaments. 7. Female cibarium. 8. Coxite and style of male. 9. Ventral plate. 10. Ventral plate in lateral view. 11. Ventral plate in end view. 12. Median sclerite. 13. Larval head capusules in ventral view. 14. Larval anal sclerite. 15. Larval mandible.

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with fine yellow hairs and with black hairs on prescutellum region. Scutellum black with long brown hairs. Postscutellum black and bare. Pleural membrane and katepisternum bare. Legs. Fore coxa and trochanter yellow; mid and hind coxae and trochanters brown. Fore and mid femora yellowish with distal 1/4 black; hind femur yellowish with distal 1/3 black. All tibiae black except hind tibia with large yellowish patch medially on outer surface. All tarsi black except basal 4/5 of mid basitarsus, basal 3/4 of hind basitarsus and basal 1/2 of second tarsomere which are yellowish. Fore basitarsus somewhat dilated distally, W: L = 1.0: 4.8. Hind basitarsus parallel-sided, W: L= 1.0: 6.5. Calcipala and pedisulcus marked. All claws simple. Wing. Costa with spinules as well as hairs; Subcosta distal 2/3 hairy. Basal section of radius bare; hair tuft at base of costa and stem vein brownish.

Abdomen. Basal scale black with a fringe of brown hairs. Terga dark brown. Genitalia. The ventral surface of the 7th sternite bears a patch of branched, long setae; the 8th sternite has about 20 long black hairs on each side. Anterior gonapophyses widely separated from each other; their posterior end broadly rounded and inner margins parallel-sided, which are not thickened. Each arm of genital fork with a small sclerotized projection directed forwards. Spermatheca nearly ovoid. Paraproct and cercus of moderate size.

Male. Body length about 2.8 mm. Wing length about 2.0 mm.

Head. Upper eye with 12 horizontal and 11 vertical rows of facets. Clypeus black, grey pruinose and covered with black hairs. Anternna consisting of 2+ 9 segments, brownish black except for pale yellow scape and pedicel; 1st flagellar segment elongate, about 1.6 times as long as length of following one.

Thorax. Nearly same as in female except subcosta only with a few hairs.

Abdomen. Nearly same as in female. Genitalis. Coxite about 0.8 as long as wide. Style gradually broadened towards basal 1/3 and about 2.0 times its greatest width near basal 1/3 and with rounded protuberance at base but lacking apical spine. Vertral plate has a broad base with rather stout basal arms, plate body plate-form and almost smooth in ventral view. Parameres each with numerous paramenal hooks. Median sclerite plate-form, gradually widened distally and with straight end.

Pupa. Body length about 2.8 mm.

Head and thorax. Integument brownish yellow, lacking tubercles except on dorsal and lateral surface of thorax which have minute tubercles. Head with 3 pairs of short trochomes which are simple. Thoracic trichomes 5 pairs, all short and simple. Gill organ. With 6 filaments arranged in pairs, very short-stalked, subequal in length and about 1/2 the length of pupal body, middle pair arises from primary stalk of upper pair of filaments.

Abdomen. Terga 3 and 4 each with 4 hooked spines directed anteriorly on each side; terga 7-9 each with a transverse row of spine-combs; tergum 9 lacking terminal hooks. Sternum 5 with a pairs of bifid hooks submedially on each side; sterna 6 and 7 each with a pair of bifid hooks widely spaced on each side. Cocoon. Wall-pocket-shaped, tightly woven, with a strong anterior margin and have large antero-lateral windows on each side.

Mature larva. Body length about 5.0 mm. Cephalic apotome with indistinct of faint, positive head spots. Antenna composed of 4 segments in proportion of 2.4: 4.5: 3.1: 0.3, longer than cephalic fan; each cephalic fan with 28-30 main rays. Mandibular serrations composed of large and small teeth and without supernumerary serration. Hypostomium with row of 9 apical teeth, of which medial tooth prominent; lateral serration moderately developed on apical 1/2; hypostomal setae 4 in number diverging posteriorly from lateral margin on each side. Postgenal cleft deep, pot-like, reaching posterior margin of hypostomium and somewhat narrowed apically. Thoracic cuticle bare. Abdominal integument bare except a few short setae on each side of anal sclerite. Rectal gill lobes compound, each with 5-8 finger-like secondary lobules. Anal sclerite of usual X-form, anterior arms about 0.6 as long as posterior ones. Ventral papillae absent.

Holotype ♀, reared from pupa, slide-mounted together with its associated pupal skin, was collected in fast-flowing stream from Daming Mountain, Guangxi (23°50′N, 108°32′E; alt. 1764m). 13 Aug. 2004, taken from submerged grass blades exposed to the sun by ZHANG Chun-Lin and ZHANG Jian-Qing. Paratypes: 7♀♀, 5 ♂♂, 21 pupae and 6 larvae on the same day as holotype.

Distribution. Guangxi Zhuang Aut. Reg, China.

Remarks. This new species seems to fall into the *malyshevi* group defined by Takaoka and Davies (1996) by the characteristic feature of adult genitalia. It is allied to *S.* (*S.*) *hirtipannus* Puri from India and *S.* (*S.*) *nacojapi* Smart from Japan in several characters including the presence of branched setae on the 7th sternite in the female and the shape of ventral plate in the male. The new species, however, can be readily separated from above two species by the female cibarium smooth, the claws simple and the color of legs, and the larval postgenal cleft reaching the posterior margin of the hypostomium.

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广西大明山蚋属一新种 (双翅目, 蚋科)

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摘 要 记述采自广西大明山的蚋属1新种, 大明蚋 *Simulium* (*Simulium*) *damingense* sp. nov. (图1~15)。新种依其两性尾器特征, 隶属于淡足蚋组 *malyschevi* group (Takaoka and Davies, 1996)。新种雌虫第7腹节有分支毛丛, 雄虫生殖腹板的形状, 与印度的 *S.* (*S.*) *hirtipannus* Puri 和日本的 *S.* (*S.*) *naojapi* Smart 近似。但新种雌虫食窦弓光滑, 爪简单, 足的颜色及幼虫后颊裂伸达亚颏后缘等特征可与以上两种相区别。报道自日本的 *S* (*S.*) *kyushuense Takaoka*, 1978 的幼虫后颊裂延伸达亚颏后缘, 但其雌虫第7腹节无分支毛丛可资鉴别。

正模 ♀, 副模 7♀♀, 5 ♂♂, 21蛹, 6幼虫, 均采自广西大明山小溪急流向阳水草中。模式标本存放于贵阳医学院生物学教研室。

关键词 双翅目, 蚋科, 蚋属, 新种, 广西.
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